IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of:		§	
	LUBOMIRSKY, et al.	§	
		§	Group Art Unit: 1753
Serial No.:	10/781,040	§	
		§	
Confirmation No.:	8367	§	
		§	Examiner: Van, Luan V.
Filed:	February 18, 2004	§	
		§	
For:	METHOD FOR IMMERSING A SUBSTRATE	§	

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

APPEAL BRIEF

Applicants submit this Appeal Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 1753 dated April 5, 2006, finally rejecting claims 1-6, 8-10, 12-16, and 19-26. The final rejection of claims 1-6, 8-10, 12-16, and 19-26 is appealed. This Appeal Brief is believed to be timely since mailed by the due date of August 30, 2006, as set by mailing a Notice of Appeal on June 30, 2006. Authorization to charge the fee of $500.00 for filing this brief is provided on a separate fee transmittal. Please charge any additional fees that may be required to make this Appeal Brief timely and acceptable to Deposit Account No. 20-0782/APPM/008266/JYC.

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Real Party in Interest

The present application has been assigned to Applied Materials, Inc., 3050 Bowers Avenue, Santa Clara, California 95054.

Related Appeals and Interferences

Applicant asserts that no other appeals or interferences are known to the Applicant, the Applicant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1-6, 8-10, 12-16, and 19-26 are pending in the application. Claims 1-20 were originally presented in the application. Claims 21-26 were added in Applicants' Response to Office Action dated December 8, 2005. Claims 7, 11, and 17-18 have been canceled without prejudice. Claims 1-6, 8-10, 12-16, and 19-26 stand finally rejected as discussed below. The final rejections of claims 1-6, 8-10, 12-16, and 19-26 are appealed. The pending claims are shown in the attached Claims Appendix.

Status of Amendments

All claim amendments have been entered by the Examiner. No amendments to the claims were proposed after the final rejection.

Summary of Claimed Subject Matter

Claimed embodiments of the invention generally provide a method for immersing a substrate into an electrochemical plating solution to minimize plating defects by minimizing bubble formation and adhesion to the substrate surface during the immersion process. The immersion method generally includes driving or actuating the substrate into the plating solution using a combination of a tilt and swing immersion processes. The substrate may be tilted at an angle with respect to horizontal, and then vertically actuated toward the plating solution while being rotated in order to immerse the substrate and maintain a constant angle between the substrate and the upper surface of the plating solution, causing bubbles to be dislodged from the substrate surface and carried away from the substrate surface. Further, the tilt angle of the substrate may be adjusted during the immersion process, thus generating a swing or pendulum type motion, which also urges bubbles attached to the substrate surface to be dislodged therefrom (*see*, paragraphs 11, 22, and 27). Once the substrate is completely immersed into the plating solution, the substrate may be positioned deeper into the plating solution in a vertical direction (downward) and may also include being rotated and pivoted about a pivot point so the substrate surface may be positioned in parallel relationship to the upper surface of an anode (*see*, paragraphs 32, and 36, and Figures 5-9).

In the embodiment of claim 1, a method is provided for immersing a substrate into a fluid solution having an anode 205 placed therein (*see*, paragraph 25), comprising loading a substrate into a receiving member 302 (*see*, paragraph 27), tilting the receiving member 302 to a first tilt angle measured from horizontal (*see*, paragraph 28), displacing the receiving member 302 toward the fluid solution at the first tilt angle (*see*, paragraph 29), tilting the receiving member 302 to a second tilt angle measured from horizontal when the substrate contacts the fluid solution (*see*, paragraph 30), the second tilt angle being different from the first tilt angle, and positioning the substrate at a processing angle such that a plating surface of the substrate is positioned substantially parallel to a surface of the anode 205 placed in the fluid solution (*see*, paragraphs 31-

33), wherein the anode 205 is tilted between about 3° and about 30°(*see*, paragraphs 11, 22, 25, and 27).

In the embodiment of claim 8, a method is provided for minimizing bubble adherence to a substrate during a substrate immersion process, comprising; tilting the substrate to a tilt angle measured from horizontal (*see*, paragraph 28), vertically actuating the substrate toward a fluid solution having an anode 205 placed therein while maintaining the tilt angle (*see*, paragraph 29), reducing the tilt angle to about horizontal once the substrate contacts the fluid solution, while continuing the vertical actuation of the substrate (*see*, paragraphs 30-31), and positioning the substrate at a processing angle such that a plating surface of the substrate is positioned substantially parallel to a surface of the anode 205 placed in the fluid solution (*see*, paragraphs 31-33), wherein the anode 205 is tilted between about 3° and about 30°(*see*, paragraphs 11, 22, 25, and 27).

In the embodiment of claim 15, a method is provided for immersing a substrate into a plating electrolyte having an anode 205 placed therein, comprising positioning the substrate on a contact ring (*see*, paragraph 25), securing the substrate to the contact ring 302 with a thrust plate assembly 304 (*see*, paragraphs 29-33), tilting the contact ring 302 to a tilt angle of between about 3° and about 7°(*see*, paragraph 28), vertically actuating the contact ring 302 toward the plating electrolyte while maintaining the tilt angle (*see*, paragraph 29), rotating the contact ring 302 at a rotation rate of between about 30 rpm and about 120 rpm (*see*, paragraph 34), reducing the tilt angle to about horizontal when the contact ring 302 initially touches the plating electrolyte (*see*, paragraphs 30-31), and positioning the substrate in a processing position such that a plating surface of the substrate is positioned substantially parallel to a surface of the anode 205 placed in the plating electrolyte (*see*, paragraphs 31-33), wherein the anode 205 is tilted between about 3° and about 30° (*see*, paragraphs 11, 22, 25, and 27).

In the embodiment of claim 23, a method for immersing a substrate into a plating solution contained in a plating cell 200 of a plating apparatus 102, 104, 106, 108, 110, 112, 114, 116 (*see*, paragraph 25), the plating cell 200 having an anode 205 placed

therein (*see*, paragraph 27), comprising, loading a substrate into a receiving member 302 of the plating apparatus 102, 104, 106, 108, 110, 112, 114, 116, tilting the receiving member 302 to a first tilt angle relative to a surface of the anode 205 (*see*, paragraph 28), immersing the substrate into the plating solution of the plating cell 200 (*see*, paragraph 29), pivoting the receiving member from the first tilt angle through an intermediate position to a second tilt angle while maintaining the substrate immersed in the plating solution (*see*, paragraphs 38-41), wherein at the intermediate position the surface of the substrate is substantially parallel to the surface of the anode 205 (*see*, paragraph 37), and tilting the substrate being held by the receiving member 302 from the second tilt angle into a third tilt angle such that a plating surface of the substrate is positioned substantially parallel to the surface of the anode 205 (*see*, paragraphs 31-33).

Grounds of Rejection to be Reviewed on Appeal

1. Claim 25 stands rejected under 35 U.S. C. § 112, first paragraph, as failing to comply with the written description requirement. The rejection of claims 21-24 and 26 under 35 U.S. C. § 112, first paragraph has been withdrawn in the Advisory Action dated June 15, 2006.

2. Claims 1-4, 8-9, 12-16 and 20-26 stand rejected under 35 U.S.C. § 103(a) as being obvious over *Dordi, et al.* (US Patent No. 6,582,578) in view of *Sendai, et al.* (US Patent Application No. 2003/0057098).

3. Claims 5, 6, 10, and 19 stand rejected under 35 U.S.C. § 103(a) as being obvious over *Dordi, et al.* in view of *Sendai, et al.*, and further in view of *Wang et al.* (US Patent Application No. 2002/0084189).

ARGUMENTS

A. Rejection of Claims 25 under 35 U.S.C. §112, first paragraph.

Claim 25 stands rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The rejection of claims 21-24 and 26 under 35 U.S. C. § 112, first paragraph has been withdrawn in the Advisory Action dated June 15, 2006.

In the Final Office Action dated April 5, 2006, the Examiner states that the disclosure does not provide a clear indication to support the limitation of "a third tilt angle" in claims 23-26, and in the Advisory Action, the Examiner indicated that the argument against the rejection of claims 21-24 and 26 is found persuasive; however, the rejection of claim 25 under 35 U.S. C. § 112, first paragraph, is maintained.

Applicants respectfully request withdrawal of the rejection of claim 25 under 35 U.S.C. §112, first paragraph.

Applicants respectfully submit that the limitation of "the anode is not tilted" in claim 25 is supported at least at paragraphs 26 and 28. For example, the specification describes "process stations 102, 104, 106, 108, 110, 112, 114, 116 may be any number of processing cells utilized in an electrochemical plating platform" (*see*, paragraph 25), "Stations 102, 104, 110, and 112 may be configured as plating cells, either electrochemical plating cells or electroless plating cells, for example" (*see*, paragraph 26), "the exemplary plating cell and the above noted components are further illustrated in commonly assigned United States Patent Application Serial No. 10/268,284, which was filed on October 9, 2002 under the title Electrochemical Processing Cell, claiming priority to United States Provisional Application Serial No. 60/398,345, which was filed on July 24, 2002, both of which are incorporated herein by reference in their entireties to the extent that these applications are not inconsistent with the present invention" (*see*, paragraph 28). Further, paragraph 24 of Patent Application Serial No. 10/268,284, states that "plating cell 100 may be horizontally positioned or positioned in a tilted orientation, *i.e.*, where one side of the cell is elevated vertically higher than the opposing

side of the cell, as illustrated in Figure 1". Accordingly, the specification supports the limitation of "the anode is not tilted" as recited in claim 25.

Furthermore, the specification describes that "head assembly 300 may be tilted back and forth between a first tilt angle and a second tilt angle in an oscillatory manner, *i.e.*, in a manner where the substrate is tilted between a first angle and a second angle several times". Thus, the specification and the drawings support that the substrate is tilted back and forth from a first tilt angle through an intermediate position to a second tilt angle, as recited in claim 23, which claim 25 depends thereon (*see*, paragraphs 38 and Figures 5-6).

Still further, the specification supports that "the tilting motion illustrated in Figure 8 generally will not raise the surface of the substrate out of the plating solution on the high side of the tilted contact ring. ..... since the substrate is intended to be maintained within the plating solution once immersed therein, head assembly 300 will generally be actuated further into the plating solution in order to move the contact ring 302 from the horizontal position illustrated in Figure 7 to the tilted position illustrated in Figure 8 without raising at least a portion of the substrate out of the plating solution (*see*, paragraphs 38 and Figures 7-8). In addition, the specification also discloses that "this final tilting motion of head assembly 300 generally corresponds to positioning contact ring 302 in a processing position" (*see*, paragraphs 38). Further, the specification supports that "embodiments of the invention contemplate expanding step 903 to include multiple tilting motions once the substrate is immersed within the plating solution. For example, once the substrate is immersed in the plating solution, head assembly 300 may operate to tilt contact ring 302 back and forth between a tilt angle in one direction to a tilt angle in another direction. This tilting or pendulum type motion may operate to dislodge bubbles that are adhering to the surface of the substrate as a result of the immersion process. The repeated tilting or pendulum type motion may also include rotation of the substrate, which when combined with the tilting motion, has been shown to substantially remove the amount of bubbles adhering to the substrate surface. Additional oscillatory motions that may be implemented aside from or in conjunction with the tilt oscillation include vertical actuation, rotational actuation, and horizontal actuation (*see*, paragraph 45).

Accordingly, repeated tilting or pendulum type motion of the substrate with multiple tilted angles during substrate immersion is supported by the specification and the drawings without any limitation on the plating cell or the anode therein to be positioned horizontally or in a tilted orientation. Withdrawal of the rejection is respectfully requested.

B. Rejection of Claims 1-4, 8-9, 12-16 and 20-26 over *Dordi, et al.* in view of *Sendai, et al.*

Claims 1-4, 8-9, 12-16 and 20-26 stand rejected under 35 U.S.C. § 103(a) as being obvious over *Dordi, et al.* in view of *Sendai, et al.* The Examiner states that *Dordi, et al.* teaches a first tilt angle and a second tilt angle being maintained in a horizontal position which is different from the first tilt angle. The Examiner also states that *Dordi, et al.* does not explicitly discloses a processing angle but the second tilt angle of *Dordi, et al.* is the same as the processing angle since the anode of *Dordi, et al.* is not tilted. The Examiner further states *Dordi, et al.* does not teach positioning a substrate parallel to the surface of the anode whereas *Sendai, et al.* teaches the substrate and the anode are parallel to each other in a tilt processing angle of one to ten degrees, and it would have been obvious to have modified the method of *Dordi, et al.* by tilting the substrate and the anode to the processing angle of *Sendai, et al.* because it would prevent air bubble from remaining on the surface to be plated, thus preventing defects in the plated films, and the teachings of paragraph 96 of *Sendai, et al.* provide a motivation for modifying the processing angle of *Sendai, et al.* Applicants have respectfully traversed the rejections based on failure of *Dordi et al.* in view of *Sendai et al.* for the substrate to be held at three angled positions.

Dordi et al. discloses a plating method of immersing a substrate into a horizontal plating cell by vertically displacing the substrate into an electrolyte solution while maintaining the substrate at a tilt angle above the electrolyte solution and positioning the substrate substantially horizontal prior to plating a material on the substrate. Thus, *Dordi et al.* discloses the substrate being held at two positions, a first angled position and a second horizontal position.

Sendai et al. discloses a method of immersing the wafer (W) into a plating bath 12 having an anode 17, depending on the anode 17 is placed horizontally or tilted. When the anode 17 is placed horizontally, the wafer is held at a first inclined angle of α and then a horizontal processing position. (*See*, Figures 1-9, paragraphs 0022-0025, and 0080-0087.) Thus, the wafer of *Sendai et al.* is being held at two positions when the anode is not tilted.

When the anode 17 of *Sendai et al.* is inclined at a fixed angle of β, the wafer is held at only one single position, which is the same fixed angle of β. In this instance, *Sendai et al.* teaches that the wafer does not need to be brought back to horizontal during both immersion and plating processes since the wafer and the anode 17 are tilted at the same inclined angle of β. (*See*, Figures 11-12 and paragraphs 0091-0096.) Thus, the wafer of *Sendai et al.* is being held at one single position when the anode is tilted.

Thus, *Dordi et al.* in view of *Sendai et al.* discloses that the substrate is held at a first tilt angle and a horizontal processing position in a horizontal plating cell, or alternatively, the substrate is held at a fixed tilt angle in a plating cell with a tilted anode for immersion and processing without the need to change the angle of the substrate.

Applicants respectfully submit that there is no teaching, suggestion, or motivation in the references for the substrate to be held at three angled positions. *Dordi et al.* in view of *Sendai et al.*, alone or in combination, does not teach, show, or suggest tilting a receiving member and positioning a substrate to a first tilt angle, a second tilt angle, and a processing angle, as recited in claims 1, 8, 15, 23, and claims dependent thereon.

Accordingly, *Dordi et al.* in view of *Sendai et al.*, alone or in combination, does not teach, show or suggest a method for immersing a substrate into a fluid solution having an anode placed therein, including loading a substrate into a receiving member, tilting the receiving member to a first tilt angle, displacing the receiving member toward the fluid solution at the first tilt angle, tilting the receiving member to a second tilt angle different from the first tilt angle, positioning the substrate at a processing angle such that a plating surface of the substrate is positioned substantially parallel to a surface of the anode placed in the fluid solution, wherein the anode is tilted between about 3° and about 30°, as recited in claim 1 and claims dependent thereon.

Dordi et al. in view of *Sendai et al.*, alone or in combination, does not teach, show or suggest a method for minimizing bubble adherence to a substrate during a substrate immersion process, including tilting the substrate to a tilt angle measured from horizontal, vertically actuating the substrate toward a fluid solution having an anode placed therein while maintaining the tilt angle, reducing the tilt angle to about horizontal once the substrate contacts the fluid solution, while continuing the vertical actuation of the substrate, and positioning the substrate at a processing angle such that a plating surface of the substrate is positioned substantially parallel to a surface of the anode placed in the fluid solution, wherein the anode is tilted between about 3° and about 30°, as recited in claim 8 and claims dependent thereon.

Dordi et al. in view of *Sendai et al.*, alone or in combination, does not teach, show or suggest a method for immersing a substrate into a plating electrolyte having an anode placed therein, including positioning the substrate on a contact ring, securing the substrate to the contact ring with a thrust plate assembly, tilting the contact ring to a tilt angle of between about 3° and about 7°, vertically actuating the contact ring toward the plating electrolyte while maintaining the tilt angle, rotating the contact ring at a rotation rate of between about 30 rpm and about 120 rpm, reducing the tilt angle to about horizontal when the contact ring initially touches the plating electrolyte, and positioning the substrate in a processing position such that a plating surface of the substrate is positioned substantially parallel to a surface of the anode placed in the plating electrolyte, wherein the anode is tilted between about 3° and about 30°, as recited in claim 15 and claims dependent thereon.

Dordi et al. in view of *Sendai et al.*, alone or in combination, does not teach, show or suggest a method for immersing a substrate into a plating solution contained in a plating cell of a plating apparatus, the plating cell having an anode placed therein, including loading a substrate into a receiving member of the plating apparatus, tilting the receiving member to a first tilt angle relative to a surface of the anode, immersing the substrate into the plating solution of the plating cell, pivoting the receiving member from the first tilt angle through an intermediate position to a second tilt angle while maintaining the substrate immersed in the plating solution, wherein at the intermediate position the surface of the substrate is substantially parallel to the surface of the anode,

and tilting the substrate being held by the receiving member from the second tilt angle into a third tilt angle such that a plating surface of the substrate is positioned substantially parallel to the surface of the anode, as recited in claim 23 and claims dependent thereon.

Withdrawal of the rejection is respectfully requested.

C. Rejection of Claims 5, 6, 10, and 19 stand rejected under 35 U.S.C. § 103(a) as being obvious over *Dordi, et al. '578* in view of *Sendai, et al.*, and further in view of *Wang et al.*

Claims 5, 6, 10, and 19 stand rejected under 35 U.S.C. § 103(a) as being obvious over *Dordi, et al. '578* in view of *Sendai, et al.*, and further in view of *Wang et al. Wang et al.* Applicant have respectfully traversed the rejection.

Dordi et al. and *Sendai et al.* have been discussed above.

Wang et al. discloses an electro-chemical plating system and a plating method. *Wang et al.* does not disclose tilting a receiving member and positioning a substrate to a first tilt angle, a second tilt angle, and a processing angle, as recited in claims 1, 8, 15, which claims 5, 6, 10, and 19 are dependent on, and lacking in *Dordi et al.* in view of *Sendai et al.* Therefore, *Dordi et al.* in view of *Sendai et al.*, and further in view of *Wang et al.*, alone or in combination, does not teach, show, or suggest the subject matter, as recited in claim 5, 6, 10, and 19. Withdrawal of the rejection is respectfully requested.

CONCLUSION

The Examiner errs in finding that the limitation in claim 25 is not supported to reject claim 25 because the limitation of "the anode is not tilted" in claim 25 is supported by the disclosure of the instant application.

The Examiner errs in finding that *Dordi et al.* in view of *Sendai et al.* discloses a substrate being held at three tilted angles during substrate immersion to reject claims 1-4, 8-9, 12-16 and 20-26 because *Dordi et al.* in view of *Sendai et al.* does not teach, show, or suggest three tilted angles.

The Examiner errs in finding that *Dordi et al.* in view of *Sendai et al.*, and further in view of *Wang et al* discloses the substrate being held at three tilted angles and oscillating the substrate to reject claims 5, 6, 10, and 19 because *Dordi et al.* in view of *Sendai et al.*, and further in view of *Wang et al.*, alone or in combination, does not teach, show, or suggest the substrate being held at three tilted angles during substrate immersion.

Respectfully submitted,

Keith M. Tackett
Registration No. 32,008
Patterson & Sheridan, L.L.P.
3040 Post Oak Blvd. Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Attorney for Appellant(s)

CLAIMS APPENDIX

1. (Previously Presented) A method for immersing a substrate into a fluid solution having an anode placed therein, comprising:

loading a substrate into a receiving member;

tilting the receiving member to a first tilt angle measured from horizontal;

displacing the receiving member toward the fluid solution at the first tilt angle;

tilting the receiving member to a second tilt angle measured from horizontal when the substrate contacts the fluid solution, the second tilt angle being different from the first tilt angle; and

positioning the substrate at a processing angle such that a plating surface of the substrate is positioned substantially parallel to a surface of the anode placed in the fluid solution, wherein the anode is tilted between about 3° and about 30°.

2. (Original) The method of claim 1, wherein the first tilt angle is between about 3° and about 10°.

3. (Original) The method of claim 1, wherein the second tilt angle is about 0°.

4. (Original) The method of claim 1, further comprising rotating the receiving member at a rotation rate of between about 30 rpm and about 240 rpm.

5. (Original) The method of claim 1, further comprising oscillating the second tilt angle once the substrate is immersed in the fluid solution.

6. (Original) The method of claim 5, further comprising oscillating the substrate in a vertical direction once the substrate is immersed in the fluid solution.

7. (Cancelled)

8. (Previously Presented) A method for minimizing bubble adherence to a substrate during a substrate immersion process, comprising:

tilting the substrate to a tilt angle measured from horizontal;

vertically actuating the substrate toward a fluid solution having an anode placed therein while maintaining the tilt angle;

reducing the tilt angle to about horizontal once the substrate contacts the fluid solution, while continuing the vertical actuation of the substrate; and

positioning the substrate at a processing angle such that a plating surface of the substrate is positioned substantially parallel to a surface of the anode placed in the fluid solution, wherein the anode is tilted between about 3° and about 30°.

9. (Original) The method of claim 8, further comprising rotating the substrate at a rate of between about 60 rpm and about 120 rpm.

10. (Original) The method of claim 8, further comprising oscillating the tilt angle of the substrate after the substrate is immersed in the fluid solution and before positioning the substrate at the processing angle.

11. (Cancelled)

12. (Original) The method of claim 8, wherein the tilt angle is between about 3° and about 7°.

13. (Original) The method of claim 8, wherein the tilt angle is reduced to horizontal before the vertical actuation is completed.

14. (Original) The method of claim 8, wherein the tilt angle is greater than 0° at a time when the substrate becomes completely immersed in the fluid solution.

15. (Previously Presented) A method for immersing a substrate into a plating electrolyte having an anode placed therein, comprising:

positioning the substrate on a contact ring;

securing the substrate to the contact ring with a thrust plate assembly;

tilting the contact ring to a tilt angle of between about 3° and about 7°;

vertically actuating the contact ring toward the plating electrolyte while maintaining the tilt angle;

rotating the contact ring at a rotation rate of between about 30 rpm and about 120 rpm;

reducing the tilt angle to about horizontal when the contact ring initially touches the plating electrolyte; and

positioning the substrate in a processing position such that a plating surface of the substrate is positioned substantially parallel to a surface of the anode placed in the plating electrolyte, wherein the anode is tilted between about 3° and about 30°.

16. (Original) The method of claim 15, further comprising reducing the tilt angle to about horizontal before stopping the vertical actuation.

17. (Cancelled)

18. (Cancelled)

19. (Previously Presented) The method of claim 15, further comprising oscillating the tilt angle of the substrate after the tilt angle is reduced to about horizontal.

20. (Original) The method of claim 15, further comprising maintaining a central axis of the substrate proximate a center of the electrolyte solution during the immersion process.

21. (Previously Presented) The method of claim 1, further comprising tilting the receiving member from the first tilt angle through an intermediate position to the second tilt angle while maintaining the receiving member and the substrate loaded thereon

immersed in the fluid solution, wherein at the intermediate position the surface of the substrate is substantially parallel to the surface of the anode.

22. (Previously Presented) The method of claim 8, further comprising tilting the receiving member from the first tilt angle through an intermediate position to a second tilt angle while maintaining the receiving member and the substrate loaded thereon immersed in the fluid solution, wherein at the intermediate position the surface of the substrate is substantially parallel to the surface of the anode.

23. (Previously Presented) A method for immersing a substrate into a plating solution contained in a plating cell of a plating apparatus, the plating cell having an anode placed therein, comprising:

loading a substrate into a receiving member of the plating apparatus;

tilting the receiving member to a first tilt angle relative to a surface of the anode;

immersing the substrate into the plating solution of the plating cell;

pivoting the receiving member from the first tilt angle through an intermediate position to a second tilt angle while maintaining the substrate immersed in the plating solution, wherein at the intermediate position the surface of the substrate is substantially parallel to the surface of the anode; and

tilting the substrate being held by the receiving member from the second tilt angle into a third tilt angle such that a plating surface of the substrate is positioned substantially parallel to the surface of the anode.

24. (Previously Presented) The method of claim 23, wherein the anode is tilted between about 3° and about 30°.

25. (Previously Presented) The method of claim 23, wherein the anode is not tilted.

26. (Previously Presented) The method of claim 23, further comprising vertically displacing the substrate while the substrate is immersing inside the plating solution.

EVIDENCE APPENDIX

No copy of evidence is presented at this time.

RELATED PROCEEDINGS APPENDIX

No copies of decisions rendered by a court or the Board are included as there have been no related appeal or interference listed on page 4 of this Brief.